

REMARKS

Claims 58–63, 65–74, 76–85, 87–96, 98–105, and 107–118 are now pending in the present application, of which claims 58, 59, 70, 81, 92, 103, and 104 are independent. Claims 64, 75, 86, 97, and 106 have been cancelled without prejudice. Claims 1–57 were previously cancelled. Claims 58–60, 62, 63, 65–70, 73, 74, 76–81, 84, 87–96, 98–104, and 107 have been amended herein. New claims 109–118 have been added. No new matter has been added.

Support for the new claims 109–118 can be found throughout the specification and claims as originally filed. For example, new claim 109 corresponds to language removed from claim 59. Similarly, new claims 110–118 correspond to language removed from claims 70, 81, 92, 103, and 104, respectively.

On page 22, the Examiner requested the Applicant to provide citations to support the new claims added in the previous Amendment. Claim 105 finds support throughout the specification as originally filed, including at least paragraphs [0037] and [0073]. Claim 106 has been canceled. Claim 107 finds support throughout the specification as originally filed, including at least paragraph [0070]. Likewise claim 108 finds support throughout the specification as originally filed, including at least FIGS. 9–10, as well as paragraphs [0094] and [0099]–[0103]. As for the amendments to the claims in the previous amendment, as noted in the Amendment, these amendments were made for clerical reasons and did not change the substance of the claims. Thus, the claims were supported by the claims as previously filed.

Objection to the Specification

The specification has been objected to due to an apparent typographical error where the word “neat” appeared where the word “near” should have been. Applicants have amended the relevant paragraph as the Examiner suggested on page 2 of the Office Action. Applicants request that the objection to the specification be withdrawn in view of the amendment.

Claim Objections

Claim 71 was objected to for being labeled “Previously Presented,” while this claim included amendments. Applicants agree that the label was erroneous in the previous Amendment, and the claim was intended to be amended as the Examiner pointed out.

Claim 103 was objected to for reciting “~~the~~ respective intended end node,” which the Examiner interpreted as “a respective intended end node.” Applicants have removed the offending language from claim 103 in the instant Amendment.

Claim 107 was objected to for reciting “delay1”. The Examiner is correct, and Applicants have corrected this apparent typographical error.

In light of the above remarks and the amendments to the claims, Applicants respectfully request that the objections to the claims be withdrawn.

Rejection of Claims 58–108 under 35 U.S.C. § 103(a)

Claims 58–59, 62–64, 66–68, 70, 73–75, 77–79, 81, 84–86, 88–90, 92, 95–97, 99–101, 103–104, and 108 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Sanmugam (U.S. Pat. No. 5,533,094) in view of Miah et al. (EP 1217855, hereinafter “Miah”).

Applicants respectfully traverse each of these rejections.

In the instant Amendment, each of the independent claims has been amended to place the claims in better condition for appeal, should an appeal be necessary. Specifically, each of the independent claims has been broken into two or more claims, and incorporated a recitation clarifying that the “paging requirements” relate to a level of quality of service. Thus, Applicants’ arguments in the previous Amendment filed in response to the Final Office Action of January 29, 2010, still largely apply to the instant claims, and those arguments are incorporated herein. Specifically, as described in the previous Amendment, in each of the rejections throughout the Office Action, the access node recited in the claims is equated to the base station 256 in Sanmugam. However, the Office Action points to descriptions in Sanmugam of a centralized node, that is, the mobile switching center (MSC) 254, and erroneously attributes modules and actions in the MSC to the base station 256.

Claim 70 may be considered as a representative claim to illustrate a few points. As amended, independent claim 70 now recites:

A method for communicating paging information in a system for distributed packet-based paging, comprising:
 determining a level of quality of service for a paging message by receiving and analyzing paging information at a paging requirements determination module within an access node; and
 allocating paging resources and generating the paging message from a paging resource control module within the access node in accordance with the level of quality of service determined by the paging requirements determination module.

Applicants respectfully submit that each of the cited references fails to disclose, teach, or suggest the above recitation of claim 70. That is, each of the Sanmugam and Miah references fails to disclose, teach, or suggest at least determining a level of quality of service for a paging message by receiving and analyzing paging information at a paging requirements determination module within an access node. That is, neither cited reference discloses determining a level of quality of service. Furthermore, each of the cited references relates to a centralized paging system, wherein any analysis of paging information is performed at a centralized node, rather than at the access node. Thus, even incorrectly assuming for the sake of argument that other disclosures within the cited references might be equated to the determining of the level of quality of service, any determination in the cited references is made at a centralized node, and not at an access node.

In any event, claim 70, as amended, now recites determining a level of quality of service for a paging message by receiving and analyzing paging information at a paging requirements determination module within an access node. Neither of the cited references discloses, teaches, or suggests determining a level of quality of service. This language is similar to language in former claim 75, now canceled. In rejecting former claim 75, on page 11, the Office Action points to a “class of service or priority,” describing “where page requests are based on paging information such as class of service, paging parameters, paging field, paging characteristics, and paging extent.” Applicants respectfully submit that none of these items described in the Office Action is the same as determining a quality of service (QoS), as this term would be understood

by a person having ordinary skill in the art and as described in the instant specification. That is, Sanmugam's assignment of a priority to different paging messages is not the same as determining a level of quality of service for a paging message by receiving and analyzing paging information.

Nor is Sanmugam's determination of the class of service or priority performed at its base station. Rather, it is performed at a centralized node (MSC). See, for example, col. 12, lines 29–33. That is, as described there, paging orders are only provided to the base station after the paging priorities are determined at the centralized node, i.e., the MSC. (See block 208, see FIG 8A–8B.) Sanmugam therefore fails to disclose, teach, or suggest receiving and analyzing paging information within an access node to determine its paging priorities, let alone a level of quality of service as claimed in the instant claim.

Similarly, on page 11, the Office Action asserts that Miah's alleged teachings related to "an indicator of type or priority" is the same as a paging requirement that is indicative of a quality of service. However, Miah's simple prioritization scheme is not the same as determining a level of quality of service for a paging message by receiving and analyzing paging information at a paging requirements determination module within an access node, as claimed.

Furthermore, as in Sanmugam, Miah only discloses a centralized node that determines priorities for its paging messages, and only after the priorities are determined, does Miah provide the messages to its Node B. That is, Miah's centralized radio network controller (RNC) includes a paging message construction unit that constructs and prioritizes paging messages. These paging messages are thereby provided to a buffer unit that provides the messages to the Node B, which then broadcasts the paging messages. See ¶ [0012], [0016].

For at least these reasons, a person having ordinary skill in the art would have no apparent reason to modify the cited references in such a manner as to arrive at the recitations of claim 70. Therefore, claim 70 is patentable over the cited references, and Applicants respectfully request that the rejection of claim 70 be withdrawn and that this claim be allowed.

For at least reasons that are substantially the same as those given above in reference to claim 70, the cited references do not disclose, teach, or suggest the recitations of independent claims 58, 59, 81, 92, 103, or 104, and there is no apparent reason why one skilled in the art would have arrived at the claimed embodiment by combining the teachings of Sanmugam and

Miah. Therefore, independent claims 58, 59, 81, 92, 103, and 104 would not have been obvious over the cited references at the time the invention was made. Therefore, Applicants request that the rejection of claims 58, 59, 81, 92, 103, and 104 be withdrawn and that these claims be allowed.

Claims 60, 71, 82, 93, and 105 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Sanmugam in view of Miah as applied to claims 59, 70, 81, and 92, and further in view of Palat et al. (U.S. Pat. No. 6,765,890, hereinafter, "Palat"). Claims 61, 72, 83, 94, and 106 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Sanmugam in view of Miah as applied to claims 59, 70, 81, and 92, and further in view of Wallentin et al. (U.S. Pat. No. 6,834,191, hereinafter "Wallentin"). Claims 65, 76, 87, 98, and 107 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Sanmugam in view of Miah as applied to claims 64, 75, 86, and 97, and further in view of Laroia et al. (U.S. Pat. No. 6,823,191, hereinafter "Laroia"). Claims 69, 80, 91, and 102 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Sanmugam in view of Miah as applied to claims 59, 70, 81, and 92, and further in view of Weber et al. (U.S. Pat. No. 6,314,282, hereinafter "Weber").

Claims 64, 75, 86, 97, and 106 have been canceled.

Palat was cited on page 17 of the Office Action only for its alleged disclosure related to "the feature(s) received location update signals." (sic) Applicants respectfully submit that Palat fails to make up for the deficiencies of Sanmugam and Miah as described above.

Wallentin was cited on pages 18–19 of the Office Action only for its alleged disclosure related to "the feature(s) a local paging agent module that coordinates signaling between the PRD module and other access nodes." Applicants respectfully submit that Wallentin fails to make up for the deficiencies of Sanmugam and Miah as described above.

Laroia was cited on page 20 of the Office Action only for its alleged disclosure related to "the feature(s) wherein the page transmission timing constraint indicates paging latency information and specifies an upper bound on paging delay." Applicants respectfully submit that Laroia fails to make up for the deficiencies of Sanmugam and Miah as described above.

Weber was cited on page 21 of the Office Action only for its alleged disclosure related to "the feature(s) wherein the determined paging requirements includes information indicating a state of device operation in which a mobile terminal (7) which reads on the claimed 'end node' to which the page is directed is to operate after receiving the page." Applicants respectfully submit that Weber fails to make up for the deficiencies of Sanmugam and Miah as described above.

Furthermore, because claims 60–63, 65–69, 71–74, 76–80, 82–85, 87–91, 93–96, 98–102, 105, and 107–118 depend, directly or indirectly, from independent claim 58, 59, 70, 81, 92, 103, or 104, respectively, they each incorporate all the terms and limitations of their respective independent claim in addition to other limitations, which together further patentably distinguish these claims over the art of record when considered as a whole. Therefore, Applicants respectfully request that the rejection of claims 60–63, 65–69, 71–74, 76–80, 82–85, 87–91, 93–96, 98–102, 105, and 107–118 be withdrawn and that these claims be allowed.

Conclusion

In view of the foregoing, Applicants believe the application is in condition for allowance. Reconsideration and early allowance are respectfully requested. If there are any remaining issues that can be addressed over the telephone, the Examiner is cordially invited to call Applicants' attorney at the number listed below.

In the event of any fees that may be due or any overpayments that may be associated with this response, please charge or deposit the amount to Deposit Account No. 17-0026.

Respectfully submitted,

Dated: July 30, 2010

By: 

Kam T. Tam, Reg. No. 35,756
Telephone: (858) 651-5563

QUALCOMM Incorporated
5775 Morehouse Drive
San Diego, California 92121
Telephone: (858) 658-5787
Facsimile: (858) 658-2502